EMERGENCY AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

www.faa.gov/aircraft/safety/alerts/

DATE: JUNE 4, 2009
AD #: 2009-12-51

This emergency airworthiness directive (AD) 2009-12-51 is sent to all owners and operators of Turbomeca S.A. Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, and 1S1 turboshaft engines.

Background

This emergency AD results from reports of oil leaks from certain reduction gearbox (module M05) front casings. The engine manufacturer reported that the lubrication duct plug was not properly bonded/ glued in place. This condition, if not corrected, could result in loss of the lubrication duct plug, followed by a rapid draining of the oil tank, without indication to the cockpit through low oil pressure warning. This condition can lead to uncommanded in-flight engine shutdown, possible engine fire, and an emergency autorotation landing.

Explanation of Relevant Service Information

We have reviewed Turbomeca S.A. Mandatory Service Bulletin (MSB) No. A292 72 0825, Version A, dated May 27, 2009. The MSB identifies the affected modules M05 by serial number, and describes procedures for initial and repetitive visual inspections for oil leaks, and repair of affected modules M05.

FAA's Determination and Requirements of the Rule

We have identified an unsafe condition that is likely to exist or develop on other Turbomeca S.A. Arriel turboshaft engines of this same type design. This AD requires initial and repetitive visual inspections of affected modules M05 for oil leakage, repair if leaking, and repair of all affected modules as terminating action to the repetitive inspections. You must use the service information described previously to perform these actions.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Determination of Rule's Effective Date

We are issuing this AD under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator, and it is effective immediately upon receipt.

2009-12-51 Turbomeca S.A.: Directorate Identifier 2009-NE-17-AD.

Effective Date

(a) Emergency AD 2009-12-51, issued on June 4, 2009, is effective upon receipt.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Turbomeca S.A. Arriel 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K1, 1S, and 1S1 turboshaft engines if modified by Turbomeca Modification TU332 and fitted with modules M05 as listed by serial number in Figure 1 of Turbomeca S.A. Mandatory Service Bulletin (MSB) No. A292 72 0825, Version A, dated May 27, 2009. These engines are installed on, but not limited to, Eurocopter France AS350B, AS350BA, AS365N, AS350B1, AS350B2, Eurocopter Deutschland GmbH MBB-BK117-C1, Agusta A109K2, and Sikorsky S-76A+ , S-76A++ and S-76C helicopters.

Unsafe Condition

(d) This AD results from reports of oil leaks from certain reduction gearbox (module M05) front casings. The engine manufacturer reported that the lubrication duct plug was not properly bonded/ glued in place. This condition, if not corrected, could result in loss of the lubrication duct plug, followed by a rapid draining of the oil tank, without indication to the cockpit through low oil pressure warning. This condition can lead to uncommanded in-flight engine shutdown, possible engine fire, and an emergency autorotation landing.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Initial Visual Inspection Before Further Flight

(f) Before further flight:

(1) Visually inspect the module M05 lubrication duct for oil leakage. Use paragraph 1.C.(1)(a), paragraph 2.A., and Figure 2 of Turbomeca S.A. MSB No. A292 72 0825, Version A, dated May 27, 2009, to do the inspection.

(2) If oil leakage is found, repair the module M05 lubrication duct. Use paragraph 2.B.1, Figure 3, and Figure 4 in Turbomeca S.A. MSB No. A292 72 0825, Version A, dated May 27, 2009, to do the repair.

Repetitive Visual Inspections

(g) If no oil leakage is found, repeat the visual inspection every four flight hours, or after the last flight of each day, whichever comes first.

(h) The actions required by paragraph (g) of this AD may be performed by the owner/operator holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9 and 14 CFR 91.417(a)(2)(v).

Optional Terminating Action

(i) As optional terminating action to the repetitive visual inspections in paragraph (g) of this AD, repair the affected modules M05 as specified in paragraph (f)(2) of this AD.

Alternative Methods of Compliance

(j) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) European Aviation Safety Agency emergency airworthiness directive 2009-0117-E, dated June 2, 2009, also addresses the subject of this AD.

Contact Information

(l) For further information, contact: James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone (781) 238-7176; fax (781) 238-7199, for more information about this AD.

Issued in Burlington, Massachusetts, on June 4, 2009.

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Aircraft Certification Service.